

Memorial talk for Jerry Uhl

ZZZZT.

I never knew what that the hell that meant, but Jerry Uhl said that to me for thirty years, so it has to be good. (Actually, last weekend in Homer, Joe Diestel said it comes from something Bob Kaufman said.)

Jerry created microenvironments around himself. You knew that the truth will be spoken, and the pompous would be mocked when you're part of the Jerry Uhl Experience. And, there will be beer. Half the beer I've had in my life was within 100 yards of Jerry Uhl. Things happen around Jerry Uhl. Stories are told – I've heard dozens in the last few weeks – but you really have to have been there.

Jerry Uhl grew up in the Allison Park section of Pittsburgh, PA. He did his undergraduate work at the College of William and Mary and his doctoral dissertation under the direction of M. M. Rao at Carnegie-Mellon. Jerry spent two years as chief of the Scientific Analysis Section of the Defense Intelligence Agency Computer Center, where he developed his life-long spit and polish and respect for hierarchical authority.

Jerry came to Urbana in 1968. In the first half of his time here, he became one of the world's leading Banach spacers, writing two books: *Vector Measures* with Joe Diestel and *The mathematics of non-linear programming* with Tony Peressini and Francis Sullivan. He had PhD students: chronologically: Barry Turett, Elias Saab, Paulette Saab, Kevin Andrews, Bob Geist, Larry Riddle, Russell Gordon, Minos Petrakis, and Maria Girardi. I still may be missing a couple.

Then, Jerry saw Mathematica implemented on the Macintosh and the computer bug is like the measles: the older you are when it hits, the more fierce its effects. Jerry spent his last twenty years developing *Calculus and Mathematica* with Horacio Porta and Bill Davis and becoming one of the world's leading innovators in mathematics education. He was a fixture in the International Mathematics Education community. His C&M and Netmath taught thousands of students and employed hundreds more. His success with C&M led to a term on the Mathematical Sciences Education Board of the National Research Council.

What is a Jerry Uhl story? One of my favorites involves the legendary Pittsburgh Pirates Hall-of-Fame shortstop Honus Wagner, the best National Leaguer in the game before World War I. Carnegie-Mellon was next to old Forbes Field, where the Pirates played. Jerry went into a bar where Wagner used to hang out and met a guy who said he was Honus Wagner himself. Jerry conceded to me that the story might not be completely accurate, "I have reason to believe that by then Wagner might have been dead." Baseball reference dot com reports that Wagner died in 1955, when Jerry was 15.

For Jerry's retirement a couple of years ago, I wrote to some of Jerry's old friends and

classmates for their stories. Here's a subset of what I said at his retirement. Jerry's grad school friend and co-author Francis Sullivan, who is the Director of the IDA Center for Computing Sciences, provided the following detailed testimony:

"For those who've known him a long time, recalling stories about Jerry Uhl is not hard. What is hard, at least for me, is forgetting some incidents I'd really hoped I could somehow expunge from my memory! As everyone who's met him knows, Jerry has a unique and uncanny ability to trigger extreme modes of behavior. Here are the punch lines of a few stories:

- 1) I found myself sitting on the mantle of this beautiful fireplace so that my singing could be heard by all!
- 2) Don't kill me, I'm Italian!
- 3) Great! The restaurant is mobbed and we'll have to wait in the bar for two hours.
- 4) We didn't really need that car anyhow.

So how did Jerry manage to get me into so many odd situations? I can explain it with one word - enthusiasm.

He'd a person of strong likes, strong dislikes, strong principles and sharp focus. If your personality "phase-locks" with his, you're going to find that you're able to go faster, fly higher, be stronger and, yes, sometimes get in more trouble - very awkward trouble. But, for me, the benefits of learning to face life with more verve, and use freely whatever abilities I might have had, far outweighed the cost of occasional troubles. I believe that many in the UIUC Mathematics Department must feel the same way. And those who don't, should!

If I were able to be at his retirement party in person, I would offer Jerry my gratitude, best wishes for the future, and a giant dinner involving many wild people and the destruction of much furniture."

That was Fran Sullivan speaking. Another grad school classmate was Neil Gretzky. His first reaction to my inquiry was "I am shocked to hear that there are stories about Jerry Uhl." Neil told me a lot of stories; interestingly, none of them were the same as the ones Francis told. Neil first wanted me to let you all know how charming Jerry was with women. In fact, he said, "All my wives thought he was great."

Jerry's Ph.D. party was in a roadhouse outside of Pittsburgh. His advisor, M.M. Rao didn't drink much, and kept ordering ginger ale. Jerry kept spiking the ginger ale and at the end of the party, his advisor told him that it was the best ginger ale he'd ever had.

One time Neil and Jerry went to a seafood smorgasbord. Six months later, they came back

and the waitress stopped them at the door: “My boss told me never to let you guys in again.”

Neil called Jerry the “Falstaff of the Mathematical world” and gave me a list of what he called “idiosyncratic Uhlisms” which shouldn’t be repeated here. Many are three-letter acronyms, in which two of the three letters are “M” and “F”, in that order.

Jerry’s student Elias Saab told me “The first time I met Jerry, was in Kalamazoo, MI. I came from France to give a talk and I was looking for a University to finish a Ph.D in math. I talked to Jerry about it so he can arrange for me to get accepted at Illinois and I can come back to the US after I get a student visa. Jerry said do not worry about it, just jump in the car and come with me to Urbana. I said that I only had a business visa and it is valid for 2 more days. Jerry said to me, I do not have a visa either, just come and we will fix that. I came with him and Jerry was able with no expertise in visas to get to me stay legally and finish my Ph.D. at Illinois.”

Anyone who has been to any of Jerry’s houses knows how much he loved trains. In the 1970s, Jerry was famous for organizing several trips by private railroad car from Urbana to mathematical meetings in New Orleans, San Antonio and elsewhere. The car became the hotel. Everybody I asked who went on one told me how great they were. For details, you had to be there.

Jerry’s cookouts were famous for more than 30 years. In 1977, Nina Rubel wrote about one such cookout in an Urbana *Courier* article that was collected in her book *Heartland Beat*, and included the turkey recipe: You wash the eight 22-24 lb. turkeys inside and out by hosing them down with a garden hose outside the house; the cook drinks a 6-pack of beer during the cooking. Makes 140 servings.

One time, Jerry invited the Saabs and their small boy to dinner with a Polish mathematician who was being given a party the next day. They went to the store and Jerry bought five chickens. The Polish mathematician asked Jerry if he is shopping for the party tomorrow. Jerry answered: “No. This is only for dinner and for the five of us tonight.” Nobody ever went hungry in Jerry’s house.

I arrived in Urbana in 1979 and quickly learned that the fastest way to figure out how this place worked was to have lunch in the basement of the Union and go out for beer at Coslow’s on Friday afternoons. Jerry was the master of ceremonies. I’d also hang out in his office at the end of the second floor of Illini Hall. Jerry was real analysis editor for the *Proceedings of the AMS*, and I’d sometimes drop by as he was going through his mail. Occasionally, in those pre-email days, a letter would cause him to scream “Oh, my God”, and paw through the pile of paper on his desk for some paper he might have forgotten to send out to a referee. These excavations would often turn up extraneous items such

as Christmas cards and old sandwiches. I wasn't shocked when he told me that the Fire Marshall had declared the stack of papers on his desk a fire hazard.

Before Jerry moved to the country, he had a house in East Urbana. There was a legend that a carpet got wet one night at one of his parties, and it was thrown out the window to dry. Unfortunately, the weather turned and an ice storm hit and the carpet was frozen outside until the spring. Then he had a log cabin built in Homer and teams of grad students went out to plant trees while it was being built. Nobody can look at the magnificent grove in front of his house and doubt Jerry's long-term planning skills. You know, I never saw that carpet out there.

At some point in the 80s, Jerry started raising Bernese Mountain dogs. According to amazon.com, Jerry is cited four times in *The Beautiful Bernese Mountain Dogs: A Complete American Handbook*. Former C & M staffer Monica Shaw wrote me from England: "I remember the two of us sitting on the leather sofa in the front room of his awesome house, talking about his beautiful Bernese dogs. He was gushing, showing me pictures, and gave me some cards with illustrations of his dogs that I still have. His most generous gesture was giving us C&M employees an awesome computer lab and a good dose of responsibility. It really made us feel special, like we had our own private club, a playground where we were free to be nerds and build relationships. What a rarity in such a large university! I'm still looking for the same sense of community I found in 239... it's hard to find and I feel lucky to have had it with C&M."

Jerry had more friends outside of the Department than any other colleague I know. Part of this was his singular ability to make new people feel like they belong. He was inclusive, not exclusive, and despite the fact that he has the credentials to be an elitist, he treated everybody pretty much the same. Elitists don't like that.

During a debate on calculus texts at one conference, a participant said "I just *like* big fat calculus books". Jerry instantly replied, "And I just *like* big fat calculus professors, but that's not the point."

On the first day that Larry Riddle was on campus as a graduate student, he mentioned to Jerry that the previous year in Cambridge, he'd written a survey paper on the geometry of Banach spaces and reflexivity. Jerry's immediate response was to schedule him for a talk in the functional analysis seminar, even though he was a grad student in his first week; he later became Larry's advisor. Larry also says that much of his success as an award-winning teacher here, at Emory and at Agnes Scott, [quote], "can be directly attributed to experiencing Jerry Uhl teach mathematics with such uncompromising passion and enthusiasm."

Anthropologists write of primitive societies which operate under the "Principle of Limited Good", in which one person's success forces the failure of others. In the same way, Math-

ematics Departments often undervalue the research work of people who are interested in teaching and who enjoy life too much. Go to MathSciNet, and look up Jerry Uhl's work. In 2008, his book on vector measures with Joe Diestel had been cited 579 times. This week, it was up to 792, and it is the third-most cited mathematical publication from 1977 of any kind. For those of you who aren't math professors, here's an idea of how extraordinary this is. It's so many citations, that if you tell a colleague that someone has been cited 792 times, they'll say, "you know, the number of citations really isn't that important"! By the way, if you prefer Google Scholar, the number there this morning was 2133. This has more than doubled over the last 2 1/2 years.

I was privileged to be a colleague and friend of Jerry's for a long time. He immeasurably enriched the life of this department, and my life as well. I came to Illinois as a functional analyst by training and Jerry was the leader of the functional analysis group. In this subject, a Banach space X is associated with its "dual space" – the set of things called functionals, which act on X . The elements of a dual space are the things which influence the space itself. Jerry is gone from the math department but he lives on its dual space. Jerry has a very large norm in our dual space, and he's probably having a beer there right now.

On the count of three, one final zzt. One two three ZZT.

Bruce Reznick

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